

K562 | 300224

Cell line

Description	K562, also known as K562, is a human leukemia cell line derived from a patient with chronic myelogenous leukemia (CML). It is a continuous cell line that grows in suspension and is characterized by its high proliferation rate and resistance to many chemotherapeutic agents. K562 cells are commonly used in research to study the mechanisms of drug resistance and to develop new therapeutic strategies. They are also used in the study of the BCR-ABL fusion protein, which is a hallmark of CML. K562 cells are typically grown in RPMI 1640 medium supplemented with 10% fetal bovine serum (FBS) and 1% penicillin-streptomycin. They are maintained at 37°C in a humidified atmosphere of 5% CO₂. K562 cells are a valuable tool for studying the biology of CML and for testing new drugs.
-------------	---

Organism	Human
----------	-------

Tissue	Leukemia
--------	----------

Disease	Chronic myelogenous leukemia
---------	------------------------------

Synonyms	K562, K.562, K 562, KO, GM05372, GM05372E
----------	---

Cell characteristics

Age	53 years
-----	----------

Gender	Male
--------	------

Ethnicity	Chinese
-----------	---------

Morphology	Adherent, epithelial
------------	----------------------

Cell type	Leukemia
-----------	----------

Growth properties	Continuous
-------------------	------------

Cell line characteristics

Citation	K562 (Cytion 300224)
----------	----------------------

Biosafety level	1
-----------------	---

XIX K562 | 300224NCBI TaxID 9606

CellosaurusAccession CVCL_0004

XXXXXXXXXX XIX- XXXXXXXXXXXXXXXX

Antigen expression CD7 (25%)

Isoenzymes G6PD, B, AK-1, 1, ES-D, 1, GLO-1, 2, PGM1, 0, PGM3, 1, Me-2, 0

Oncogenes BCR-ABL1

Tumorigenic ☒, ☒☒☒☒☒ ☒☒☒☒☒

Reverse transcriptase 

XXXXXX

Culture Medium RPMI 1640, w: 2.0 mM β -mercaptoethanol, w: 2.0 g/L NaHCO₃ (10% β -mercaptoethanol β -Cytion 820700a)

Supplements 10% FBS

Subculturing

Seeding density 3×10^5 / 

Fluid renewal ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒

Post-Thaw Recovery 

[illegible]

Cell K562 | 300224

**Thawing and
Culturing Cells**

1. **Thawing:** Thaw the cells quickly in a water bath at 37°C. Transfer the cells to a tube containing 5 ml of pre-warmed complete medium. Gently mix the cells and centrifuge at 300 x g for 5 minutes. Remove the supernatant and resuspend the cells in 1 ml of complete medium. Seed the cells into a T25 flask containing 10 ml of complete medium.
2. **Seeding:** Seed the cells into a T25 flask containing 10 ml of complete medium. The seeding density should be approximately 1.5 x 10⁵ cells per flask.
3. **Medium Change:** After 24 hours, remove the medium and replace it with fresh complete medium. This step helps to remove any dead cells and debris.
4. **Confluency:** Monitor the cell growth. Once the cells reach 70-80% confluency, they can be passaged.
5. **Passaging:** Detach the cells using trypsin-EDTA. Resuspend the cells in complete medium and seed them into a new T25 flask.
6. **Medium Change:** Change the medium every 3-4 days to ensure optimal growth conditions.
7. **Freezing:** For long-term storage, harvest the cells and freeze them in a freezing medium. Store the cells at -80°C.
8. **Thawing:** Thaw the frozen cells quickly in a water bath at 37°C and resuspend them in complete medium.

**Incubation
Atmosphere**

37°C, 5% CO₂, humidified

Flask Coating

Not required

**Freezing
Procedure**

Cells are harvested and resuspended in freezing medium. The cells are then frozen in a freezing container and stored at -80°C.

**Shipping
Conditions**

Cells are shipped in a freezing container with dry ice and stored at -80°C.

**Storage
Conditions**

Cells are stored in a freezing container at -80°C for up to 196 days.

Cell Line Characteristics

Sterility

Cells are tested for mycoplasma contamination using PCR. The results show that the cells are free of mycoplasma contamination.

Cells are also tested for endotoxin contamination. The results show that the cells are free of endotoxin contamination.

████K562 | 300224

██████HLA

A*: '11:01:01, '31:01:02
B*: '18:01:01, '40:01:02
C*: '03:04:01, '05:01:01
DRB1*: '03:01:01, '04:04:01
DQA1*: '03:01:01, '05:01:01
DQB1*: '02:01:01, '03:02:01
DPB1*: '04:01:01G, '04:02:01G
E: 01:03:02